CLAIMS

What is claimed is:

1. A method for isolating a channel of interest from a set of channels in a multimedia system, the method comprises:

receiving the set of channels as a stream of data;

interpreting segments of the stream of data to identify data of the channel of interest;

interpreting the data of the channel of interest to determine type of the data;

processing the data of the channel of interest based on the type of data to produce processed data; and

providing the processed data for display.

2. The method of claim 1 further comprises:

receiving the stream of data in packets that include a header portion and a payload portion; and

interpreting the header portion to determine which of the packets contain the data of the channel of interest.

3. The method of claim 2, wherein the interpreting the data to determine the type of data further comprises:

interpreting at least one of: the header portion and a header section of the payload portion to determine the type of data.

4. The method of claim 3, wherein the processing the data further comprises:

when the type of data is video data, converting the data of the channel of interest into at least one of: YUV data and RGB data; and

storing the at least one of the YUV data and the RGB data in a frame buffer to produce the processed data.

5. The method of claim 4, wherein the providing the processed data further comprises:

retrieving the at least one of the YUV data and the RGB data from the frame buffer at a display rate to produce retrieved display data; and

rendering the retrieved display data for display.

6. The method of claim 4 further comprises:

Huffman decoding the video data to produce Huffman decoded data;

de-zigzagging the Huffman decoded data to produce de-ZZ data;

de-quantizing the de-ZZ data to produce de-Q data;

performing an inverse discrete cosine transform function upon the de-Q data to produce IDCT data; and

performing at least one of motion compensation and scaling upon the IDCT data to produce the YUV data.

7. The method of claim 6 further comprises:

converting the YUV data into the RGB data; and

storing the at least one of the YUV data and the RGB data.

8. The method of claim 3, wherein the processing the data further comprises:

when the type of data is audio data, converting the data of the channel of interest into pulse code modulation (PCM) data; and

storing the PCM data in a frame buffer to produce the processed data.

9. The method of claim 8, wherein the providing the processed data further comprises:

retrieving the PCM data from the frame buffer at a display rate to produce retrieved display data; and

providing the retrieved display data to at least one speaker assembly.

10. The method of claim 3, wherein the processing the data further comprises:

when the type of data is application data, storing the application data in memory to produce the processed data.

11. The method of claim 10, wherein the providing the processed data further comprises:

retrieving the processed data from memory;

providing the processed data to a processor;

generating, by the processor, video data from the processed data; and

providing the video data to a display.

12. The method of claim 1 further comprises:

receiving the stream of data in frames that include a frame header and a frame payload; and

interpreting the frame header to determine which of the frames contain the data of the channel of interest.

13. The method of claim 1 further comprises:

transmitting a channel selection request, wherein the channel selection request identifies the channel of interest.

14. The method of claim 1, wherein the receiving the stream of data further comprises:

decoding the stream of data to recapture data of a channel of interest.

15. The method of claim 14, wherein the decoding further comprises at least one of:

multilevel decoding of the stream of data;

non return to zero (NRZ) decoding of the stream of data;

Manchester decoding of the stream of data;

block decoding of the stream of data; and

nB/mB decoding of the stream of data, where n < m.

16. A method for a client module to provide a channel selection request in a multimedia system, the method comprises:

receiving an input signal from a client;

interpreting the input signal to determine type of signal;

when the type of signal is a control information, determining whether the control information relates to a local command or a system-level command;

when the control information relates to a system-level command, processing the control information for conveyance to a multimedia server to produce a control message; and

transmitting the control message to the multimedia server.

17. The method of claim 16, wherein the receiving the input signal further comprises:

receiving the input signal via an interface with the client, wherein the client includes at least one of: a personal computer, a laptop computer, a person digital

assistant, a video telephone, a digital telephone, a cellular telephone, a monitor, a television, a high definition television, a printer, and a facsimile machine.

18. The method of claim 16, wherein the receiving the input signal further comprises:

receiving the input signal via a wireless communication path from a remote control device of the client.

19. The method of claim 16, wherein the determining whether the control information relates to a local command or a system-level command further comprises:

determining that the control information includes a channel selection request for a channel of interest;

determining whether a current set of channels includes the channel of interest; and

when the current set of channels includes the channel of interest, locally processing the input signal to provide the channel of interest to the client.

20. The method of claim 19 further comprises:

when the current set of channels does not include the channel of interest, preparing the control message to request selection of the channel of interest.

21. The method of claim 16, wherein the processing the control information for conveyance to the multimedia server further comprises:

encoding the control message based on a data conveyance protocol of the multimedia system to produce an encoded control message.

22. The method of claim 21, wherein the encoding further comprises:

packetizing data of the control message into a packet that includes a header section and a data section, wherein the header section includes at least one of: identity the client, type of message, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and packet sequence number.

23. The method of claim 22 further comprises:

conveying the packet using at least one of: Carrier Sense Multiple Access (CSMA), CSMA with collision avoidance, and CSMA with collision detection.

24. The method of claim 21, wherein the encoding further comprises:

framing data of the control message into a frame that includes header section and a data section, wherein the header section includes at least one of identity the client, type of message, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and frame number.

25. The method of claim 24 further comprises:

conveying the frame in accordance with at least one of: a time division multiplexing data conveyance protocol, and frequency division multiplexing data conveyance protocol.

26. The method of claim 21, wherein the encoding further comprises at least one of:

multilevel encoding data of the control message;

non return to zero (NRZ) encoding the data of the control message;

Manchester encoding the data of each of the control message;

block encoding the data of each of the control message; and

nB/mB encoding the data of each of the control message, where n < m.

27. The method of claim 16 further comprises:

when the type of signal is an audio signal, processing the audio signal to produce generic audio data;

converting the generic audio data into a stream of data; and

transmitting the stream of data to the multimedia server.

28. The method of claim 27, wherein the converting the generic audio data into the stream of data further comprises:

encoding the generic audio data based on a data conveyance protocol of the multimedia system to produce the stream of data.

29. The method of claim 27, wherein the processing the audio data further comprises at least one of:

converting the audio data into MPG formatted audio data;

converting the audio data into MP3 formatted audio data; and

converting the audio data into PCM digitized audio data.

30. The method of claim 16 further comprises:

when the type of signal is a video signal, processing the video signal to produce generic video data;

converting the generic video data into a stream of data; and

transmitting the stream of data to the multimedia server.

31. The method of claim 30, wherein the converting the generic video data into the stream of data further comprises:

encoding the generic video data based on a data conveyance protocol of the multimedia system to produce the stream of data.

32. The method of claim 30, wherein the processing the video signal further comprises at least one of:

converting the video signal of the channel of interest into MPEG formatted video data;

converting the video signal of the channel of interest into JPEG formatted video data;

converting the video signal of the channel of interest into M-JPEG formatted video data;

converting the video signal of the channel of interest into digital RGB video data; and

converting the video signal of the channel of interest into digital YCbCr video data.

33. The method of claim 16 further comprises:

when the type of signal is application data, processing the input signal to produce processed application data; and

transmitting the processed application data to the multimedia server.

34. A client module for use in a multimedia system, the client module comprises:

network interface controller operably coupled to receive encoded channel data that represents a set of channels, wherein the network interface controller extracts data relating to a channel of interest from the encoded channel data;

video decoder operably coupled to decode the data relating to the channel of interest to produce decoded video data;

memory operably coupled to store the decoded video data; and

rendering module operably coupled to retrieve the decoded video data from the memory and to render video images from the decoded video data.

35. The client module of claim 34 further comprises:

a display operably coupled to the rendering module, wherein the display displays the rendered video images.

36. The client module of claim 34 further comprises:

host processor;

host memory; and

interface module operably coupled to the host processor, the host memory, and the rendering module, wherein the host processor controls storing the rendered video images in the host memory, controls displaying of the rendered video images, and controls selecting the channel of interest.

37. The client module of claim 34, wherein the network interface controller further comprises:

transmitting module operably coupled to transmit a channel selection request.

38. The client module of claim 37 further comprises:

microphone for capturing audio signals; and

audio processor operably coupled to convert the audio signals into digitized audio signals, wherein the digitized audio signals are provided to the transmitting module.

39. The client module of claim 37 further comprises:

video camera for capturing video signals; and

video processor operably coupled to convert the video signals into digitized video data, wherein the digitized video data is provided to the transmitting module.

40. The client module of claim 34, wherein the network interface controller further comprises:

carrier sense multiple access module for detecting internet data packets within the encoded channel data.

41. The client module of claim 34, wherein the video decoder further comprises:

Huffman decoder operably coupled to decode the data relating to the channel of interest to produce Huffman decoded data;

de-zigzagging module operably coupled to process the Huffman decoded data to produce de-ZZ data;

de-quantizing module operably couple to process the de-ZZ data to produce de-Q data;

inverse discrete cosine transform module operably coupled to perform an inverse discrete cosine transform function upon the de-Q data to produce IDCT data; and

motion compensation and scaling module operably coupled to determine at least one of motion compensation and scaling of the IDCT data to produce the YUV data as the decoded video data.

42. An apparatus for isolating a channel of interest from a set of channels in a multimedia system, the apparatus comprises:

processing module; and

memory operably coupled to the processing module, wherein the memory includes operational instructions that cause the processing module to:

receive the set of channels as a stream of data;

interpret segments of the stream of data to identify data of the channel of interest;

interpret the data of the channel of interest to determine type of the data;

process the data of the channel of interest based on the type of data to produce processed data; and

provide the processed data for display.

43. The apparatus of claim 42, wherein the memory further comprises operational instructions that cause the processing module to:

receive the stream of data in packets that include a header portion and a payload portion; and

interpret the header portion to determine which of the packets contain the data of the channel of interest.

44. The apparatus of claim 43, wherein the memory further comprises operational instructions that cause the processing module to interpret the data to determine the type of data by:

interpreting at least one of: the header portion and a header section of the payload portion to determine the type of data.

45. The apparatus of claim 44, wherein the memory further comprises operational instructions that cause the processing module to process the data by:

when the type of data is video data, converting the data of the channel of interest into at least one of: YUV data and RGB data; and

storing the at least one of the YUV data and the RGB data in a frame buffer to produce the processed data.

46. The apparatus of claim 45, wherein the memory further comprises operational instructions that cause the processing module to provide the processed data by:

retrieving the at least one of the YUV data and the RGB data from the frame buffer at a display rate to produce retrieved display data; and

rendering the retrieved display data for display.

47. The apparatus of claim 45, wherein the memory further comprises operational instructions that cause the processing module to:

Huffman decode the video data to produce Huffman decoded data;

de-zigzag the Huffman decoded data to produce de-ZZ data;

de-quantize the de-ZZ data to produce de-Q data;

perform an inverse discrete cosine transform function upon the de-Q data to produce IDCT data; and

perform at least one of motion compensation and scaling upon the IDCT data to produce the YUV data.

48. The apparatus of claim 47, wherein the memory further comprises operational instructions that cause the processing module to:

convert the YUV data into the RGB data; and

store the at least one of the YUV data and the RGB data.

49. The apparatus of claim 44, wherein the memory further comprises operational instructions that cause the processing module to process the data by:

when the type of data is audio data, converting the data of the channel of interest into pulse code modulation (PCM) data; and

storing the PCM data in a frame buffer to produce the processed data.

50. The apparatus of claim 49, wherein the memory further comprises operational instructions that cause the processing module to provide the processed data:

retrieving the PCM data from the frame buffer at a display rate to produce retrieved display data; and

providing the retrieved display data to at least one speaker assembly.

51. The apparatus of claim 44, wherein the memory further comprises operational instructions that cause the processing module to process the data by:

when the type of data is application data, storing the application data in memory to produce the processed data.

52. The apparatus of claim 51, wherein the memory further comprises operational instructions that cause the processing module to provide the processed data by:

retrieving the processed data from memory;

providing the processed data to a processor;

generating, by the processor, video data from the processed data; and

providing the video data to a display.

53. The apparatus of claim 42, wherein the memory further comprises operational instructions that cause the processing module to:

receive the stream of data in frames that include a frame header and a frame payload; and

interpret the frame header to determine which of the frames contain the data of the channel of interest.

54. The apparatus of claim 42, wherein the memory further comprises operational instructions that cause the processing module to:

transmit a channel selection request, wherein the channel selection request identifies the channel of interest.

55. The apparatus of claim 42, wherein the memory further comprises operational instructions that cause the processing module to receive the stream of data:

decoding the stream of data to recapture data of a channel of interest.

56. The apparatus of claim 55, wherein the memory further comprises operational instructions that cause the processing module to decode by at least one of:

multilevel decoding of the stream of data;

non return to zero (NRZ) decoding of the stream of data;

Manchester decoding of the stream of data;

block decoding of the stream of data; and

nB/mB decoding of the stream of data, where n < m.

57. An apparatus for providing a channel selection request in a multimedia system, the apparatus comprises:

processing module; and

memory operably coupled to the processing module, wherein the memory includes operational instructions that cause the processing module to:

receive an input signal from a client;

interpret the input signal to determine type of signal;

when the type of signal is a control information, determine whether the control information relates to a local command or a system-level command;

when the control information relates to a system-level command, process the control information for conveyance to a multimedia server to produce a control message; and

transmit the control message to the multimedia server.

58. The apparatus of claim 57, wherein the memory further comprises operational instructions that cause the processing module to receive the input signal by:

receiving the input signal via an interface with the client, wherein the client includes at least one of: a personal computer, a laptop computer, a person digital assistant, a video telephone, a digital telephone, a cellular telephone, a monitor, a television, a high definition television, a printer, and a facsimile machine.

59. The apparatus of claim 57, wherein the memory further comprises operational instructions that cause the processing module to receive the input signal by:

receiving the input signal via a wireless communication path from a remote control device of the client.

60. The apparatus of claim 57, wherein the memory further comprises operational instructions that cause the processing module to determine whether the control information relates to a local command or a system-level command by:

determining that the control information includes a channel selection request for a channel of interest;

determining whether a current set of channels includes the channel of interest; and

when the current set of channels includes the channel of interest, locally processing the input signal to provide the channel of interest to the client.

61. The apparatus of claim 60, wherein the memory further comprises operational instructions that cause the processing module to:

when the current set of channels does not include the channel of interest, prepare the control message to request selection of the channel of interest.

62. The apparatus of claim 57, wherein the memory further comprises operational instructions that cause the processing module to process the control information for conveyance to the multimedia server by:

encoding the control message based on a data conveyance protocol of the multimedia system to produce an encoded control message.

63. The apparatus of claim 62, wherein the memory further comprises operational instructions that cause the processing module to encode the control message by:

packetizing data of the control message into a packet that includes a header section and a data section, wherein the header section includes at least one of: identity the client, type of message, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and packet sequence number.

64. The apparatus of claim 63, wherein the memory further comprises operational instructions that cause the processing module to:

convey the packet using at least one of: Carrier Sense Multiple Access (CSMA), CSMA with collision avoidance, and CSMA with collision detection.

65. The apparatus of claim 62, wherein the memory further comprises operational instructions that cause the processing module to encode the control message by:

framing data of the control message into a frame that includes header section and a data section, wherein the header section includes at least one of identity the client, type of message, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and frame number.

66. The apparatus of claim 65, wherein the memory further comprises operational instructions that cause the processing module to:

convey the frame in accordance with at least one of: a time division multiplexing data conveyance protocol, and frequency division multiplexing data conveyance protocol.

67. The apparatus of claim 62, wherein the memory further comprises operational instructions that cause the processing module to encode the control message by at least one of:

multilevel encoding data of the control message;

non return to zero (NRZ) encoding the data of the control message;

Manchester encoding the data of each of the control message;

block encoding the data of each of the control message; and

nB/mB encoding the data of each of the control message, where n < m.

68. The apparatus of claim 57, wherein the memory further comprises operational instructions that cause the processing module to:

when the type of signal is an audio signal, process the audio signal to produce generic audio data;

convert the generic audio data into a stream of data; and

transmit the stream of data to the multimedia server.

69. The apparatus of claim 68, wherein the memory further comprises operational instructions that cause the processing module to convert the generic audio data into the stream of data by:

encoding the generic audio data based on a data conveyance protocol of the multimedia system to produce the stream of data.

70. The apparatus of claim 68, wherein the memory further comprises operational instructions that cause the processing module to process the audio data by at least one of:

converting the audio data into MPG formatted audio data;

converting the audio data into MP3 formatted audio data; and

converting the audio data into PCM digitized audio data.

71. The apparatus of claim 57, wherein the memory further comprises operational instructions that cause the processing module to:

when the type of signal is a video signal, process the video signal to produce generic video data;

convert the generic video data into a stream of data; and

transmit the stream of data to the multimedia server.

72. The apparatus of claim 71, wherein the memory further comprises operational instructions that cause the processing module to convert the generic video data into the stream of data by:

encoding the generic video data based on a data conveyance protocol of the multimedia system to produce the stream of data.

73. The apparatus of claim 71, wherein the memory further comprises operational instructions that cause the

processing module to process the video signal by at least one of:

converting the video signal of the channel of interest into MPEG formatted video data;

converting the video signal of the channel of interest into JPEG formatted video data;

converting the video signal of the channel of interest into M-JPEG formatted video data;

converting the video signal of the channel of interest into digital RGB video data; and

converting the video signal of the channel of interest into digital YCbCr video data.

74. The apparatus of claim 57, wherein the memory further comprises operational instructions that cause the processing module to:

when the type of signal is application data, process the input signal to produce processed application data; and

transmit the processed application data to the multimedia server.